NIST Standard Reference Database 96

NIST/TRC HE Floppy Book Database
Heats of Mixing

Users' Guide
CD ROM Database

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COPYRIGHT STATEMENT

The copyright statement is always displayed when a Floppy Book is opened. It is contained in a file named *.CPI corresponding to the name of the Floppy Book main data file. If this file is missing or modified, the corresponding Floppy Book cannot be opened and used. This file can contain special codes for formatting the text.

COPYRIGHT NOTICE

A copyright notice is inserted by the program into the Trace file from any Floppy Book. If the copyright notice is missing, the Trace from the corresponding Floppy Book cannot be saved. The copyright notice is inserted into the Trace file together with the first trace (creating a new Trace file or overwriting the old one.)

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NIST/TRC HE Floppy Book Database
Heats of Mixing

This database comprises an extensive collection of data on Excess Enthalpies of binary and ternary mixtures. The database contains 9,535 records covering 864 substances. There are 4,723 systems, representing 4,670 binary mixtures and 53 ternary mixtures from 2,390 original sources. The graphical interface provides a variety of means to search the database, including CAS Registry Number, elementary chemical formula, chemical names, or record number, and also textual searches of the database index (for author or journal names, for example.)

Detailed information on using the database is available from the Help menu on the Main Window of the program. Help-topics include searching, saving session records, and saving notes (which can be referenced directly from the interface during future sessions), and customization of the user interface. Other topics include selecting (or unselecting) specific substances, and filtering (or unfiltering) the list of substances to form a tailored data set. As appropriate for the data, the interface quickly and automatically plots the selected data. Complete information is given on the original sources of all data.

INSTALLATION

All of the NIST TRC Database Products are installed with shortcuts under the NIST TRC Databases Program Group (from the Programs menu under the Start button on the Windows Taskbar) except for RefProp, the Refrigerants Properties Database, which is installed under its own program group (NIST REFPROP).

If you are planning to install any of the programs into the same directory as a previous version, please remove the old version first. It is recommended that you do this using the Add/Remove Programs function in the Control Panel, which is access from the Start button (which is usually located in the lower-left corner of your screen. On older versions of Windows, the Control Panel is accessed from the Settings menu under the Start button on the Windows Taskbar.)

The installation CD should "auto run", immediately launching the installation program. If this does not occur, you can install the database by simply opening (double-clicking) the file SETUP.EXE. Follow the on-screen instructions to complete the installation of the database.

System Requirements

PC with Microsoft® Windows® Pentium processor, Windows 2000 or XP, and at least 64 Mb memory (256 recommended).

DATABASE FILES

Each Floppy Book consists of five data files. These files have the same name (corresponding to the particular Floppy Book) and different extensions. Below is the schema of Floppy Book filename extensions.

fbname - main data file,

fbname.ic - index file,

fbname.n - substance file,

fbname.cpr - copyright statement file,

fbname.cpi - copyright notice file.

When the user uses the "Notes" editor, the program creates an additional file containing the users' remarks, named fbname.not, placed together with the files listed above.

WARNING: modifying any of the Floppy Book files may cause the Floppy Book to be unusable, or may cause program errors during execution.

USING THE DATABASE

Detailed information on using the database is available from the Help menu on the Main Window of the program. This includes topics such assearching, selecting (or unselecting) specific substances, or filtering (or unfiltering) the list of substances to form a tailored data-set, saving records of what has been done in a session using the database, saving personalized notes in connection with the program
(which will be available during future sessions, as well as other topics such as how to customize the user interface. In particular,the user may find it helpful to view the information explaining the toolbar icons. This information is available from the Help menu through the following sequences of selections:

Help --> Contents --> Main Window --> Toolbar

Help --> Contents --> Index Window --> Toolbar

GETTING HELP

Help is available from the HELP menu on the Main Window of the program. Topics include discussions of the program windows, including explanations of all of the icons on the toolbar in each window, and all of the menu items on the various pull-down menus. There is also a section on "working with floppy books", which provides a task-oriented explanation of how to perform various operations on the data, or on the user interface.

GENERAL INFORMATION

Much of the information below is also described above in the descriptions of the program's windows. The descriptions below give a functional explanation of using the program.

OPENING A FLOPPY BOOK

When the program starts, it pops up a window with a list of all of the Floppy Books that are available from the graphical interface (those Floppy Books that have been tied to the GUI through the file FB.INI,) from which you can select the Floppy Book to be opened. At any time a different Floppy Book may be opened by selecting it from the "File" menu. Whenever a Floppy Book is opened from the "File" menu, the current Floppy Book is closed, and a window displays the list of authors, copyright statement, and disclaimer.

SELECTING SUBSTANCES

A substance may be selected by double-clicking its entry in the Substance List, or pressing the Enter key when the substance is highlighted. You can move through the Substance List using the arrow keys, PgUp, PgDn, Home, End or the scroll bar.

UNSELECTING SUBSTANCES

A single substance may be unselected by double-clicking it in the Current Selection window, or by single-clicking it and using the command "Unselect substance" from "Actions" menu. To unselect all currently selected substances (shown in the Current Selection window) use the "Display complete substance list" command from "Actions" menu.

SELECTING RECORDS

Data record(s) may be selected from the Records List window. You can move through the Records List using the arrow keys, PgUp, PgDn, Home, End or the scroll bar. If the option "Auto display" is checked, after highlighting a record by moving through the Records List, the corresponding record is displayed in the Main window. More information about selecting records can be found in the Records List topic.

SAVING THE TRACE

The currently selected and displayed record(s) may be saved to a file. The default destination folder for traces may be set by selecting the command “Trace path” from the Settings menu. Traces are saved by executing the command “Save trace” from the “Operation” menu or by shortcut F9. Each trace file begins with the copyright notice.

THE NOTES EDITOR

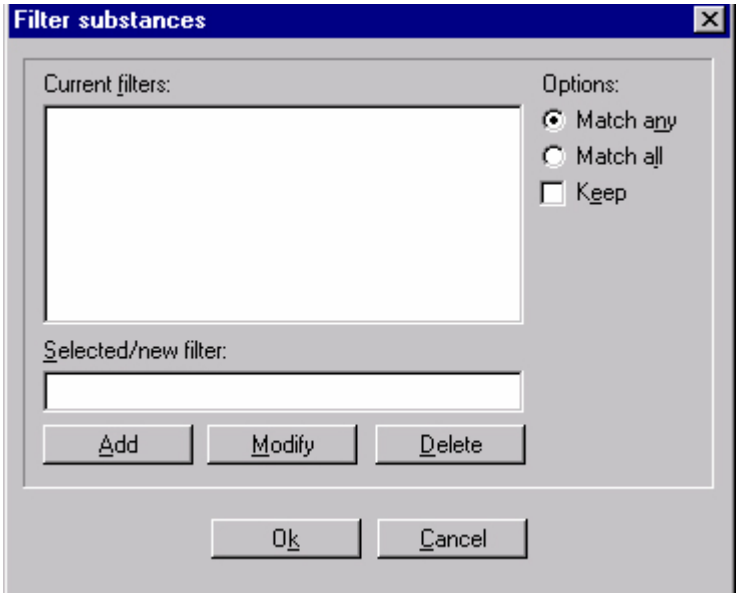
The notes editor allows the user to write and save remarks about the currently opened Floppy Book. It is invoked using the command "Notes" from the "Operation" menu of the Main window, or by the shortcut Ctrl+N. The file containing these remarks is stored in the same folder as the data file.

SEARCHING

There are several means of searching the database, all of which are available from the "Find" menu. The user can search the Substance List (on the left) or the Records List (on the right) for specific strings, or the Records List for a record number. The search dialog box provides the option of "Case sensitive" searches, which is turned off by default. To search for a string in the Substance or Records Lists, choose "Substance" or "In index", respectively, from the "Find" menu. To search for a specific record number, choose "Record number" from the "Find" menu. A search may be repeated by executing "Repeat last search" from the "Find" menu, or using the keyboard shortcut "F3".

FILTERING SUBSTANCES

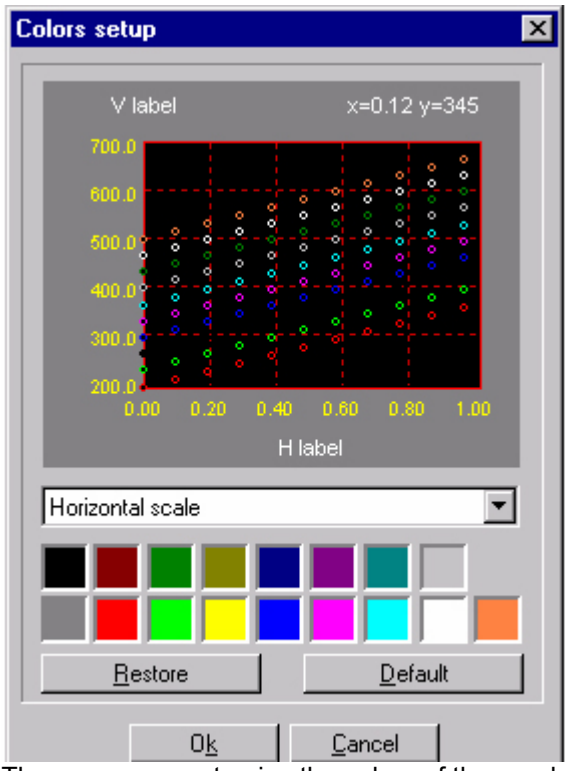
The program can filter the contents of the Substance List using user-supplied strings. Multiple filtering strings may be applied.



The program can filter the contents of the Substance List using user-supplied strings. Multiple filtering strings may be applied.

The "Current filters" window shows all currently applied filtering strings. If the option "Match any" is checked, a substance is shown in the Substance List if any of the current filtering strings are found in a substance name. Checking the option "Match all" requires that all filtering strings be found in a substance name. If the option "Keep" is checked, after selection of any new substance, all the filtering strings are used again for filtering the Substance List. Otherwise, after selection of a new substance all filtering strings are deleted and the complete Substance List is shown without filtering. Individual filtering strings may be modified or deleted from the "Current filters" window. All filters may be removed by selecting "Unfilter substances" from the "Actions" menu in the "Index" (Substance/Records) window.

SETTING OF THE COLORS



The user may customize the colors of the graph window by selecting "Colors" from the "Settings" menu.

The picture at the top of the resulting dialog box shows the current appearance of the graph window. Elements of the plot may be chosen from the combo box below this image. The color of the element is changed by selecting a color from the palette at the bottom of the dialog box. The rightmost bottom square allows the user to select a custom color - double clicking brings up a dialog box for custom colors. The "Restore" button restores the previous color set. The "Default" button sets the colors to the default, built-in color set. Below are listed the elements of the plot that may be customized:

- Background - the background of the plot area
- Shape - the area surrounding the plot area

- Frame - the rectangle (single-pixel-width line) surrounding the plot area
- Grid - the grid corresponding to the values on the horizontal and vertical axes
- Horizontal scale - numbers on the horizontal axis
- Vertical scale - numbers on the vertical axis
- Horizontal label - the description of the horizontal axis
- Vertical label - the description of the vertical axis
- Tracker – see the description of the Tracker, above
- Set #0-Set #9: data records (up to 10)

CONTACTS

If you have comments or questions about the database, the Standard Reference Data Program would like to hear from you. Also, if you should have any problems with the CD-ROM, please let us know by contacting:

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